EXHIBIT
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Smith Economics Group, Ltd.

A Division of Corporate Financial Group

Economics / Finance / Litigation Support

Stan V. Smith, Ph.D.
President

August 29, 2019

Mr. John M. Eubanks
Motley Rice
28 Bridgeside Blvd.
Mt. Pleasant, SC 29464

    Re: Hayden

Dear Mr. Eubanks:

You have asked me to calculate the value of certain losses
subsequent to the death of James Hayden. These losses are: (1)
the loss of wages and employee benefits; (2) the loss of
housekeeping and household management services; and (3) the loss
of the value of life ("LVL"), also known as loss of enjoyment of
life.

QUALIFICATIONS AND EXPERIENCE

I am President of Smith Economics Group, Ltd., headquartered in
Chicago, IL, which provides economic and financial consulting
nationwide. I have worked as an economic and financial
consultant since 1974, after completing a Research Internship at
the Federal Reserve, Board of Governors, in Washington, D.C. My
curriculum vitae lists all my publications in the last 10 years
and beyond.

I received my Bachelor's Degree from Cornell University. I
received a Master's Degree and my Ph.D. in Economics from the
University of Chicago; Gary S. Becker, Nobel Laureate 1992, was
my Ph.D. thesis advisor. The University of Chicago is one of the
world's preeminent institutions for the study of economics, and
the home of renowned research in the law and economics movement.

As President of Smith Economics, I have performed economic
analyses in a great variety of engagements, including damages
analysis in personal injury and wrongful death cases, business
valuation, financial analysis, antitrust, contract losses, a wide
range of class action matters, employment discrimination,
defamation, and intellectual property valuations including
evaluations of reasonable royalty.

I have more than 40 years of experience in the field of
economics. I am a member of various economic associations and
served for three years as Vice President of the National
Association of Forensic Economics (NAFE) which is the principal
association in the field. I was also on the Board of Editors of

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the peer-reviewed journal, the Journal of Forensic Economics, for over a decade; I have also published scholarly articles in this journal. The JFE is the leading academic journal in the field of Forensic Economics.

I am the creator and founder of Ibbotson Associates' Stock, Bonds, Bills, and Inflation (SBBI) Yearbook, Quarterly, Monthly, and SBBI/PC Services. SBBI is currently published by Duff & Phelps and is also available on various Morningstar, Inc. software platforms. SBBI is widely relied upon and regarded as the most accepted and scholarly reference by the academic, actuarial and investment community, and in courts of law. The SBBI series, which acknowledges my "invaluable role" as having "originated the idea" while Managing Director at Ibbotson Associates, is generally regarded by academics in the field of finance as the most widely accepted source of statistics on the rates of return on investment securities.

I wrote the first textbook on Forensic Economic Damages that has been used in university courses in various states; as an adjunct professor, I created and taught the first course in Forensic Economics nationwide, at DePaul University in Chicago. I have performed economic analysis in many thousands of cases in almost every state since the early 1980s.

BACKGROUND

James Hayden was a 47.5-year-old, Caucasian, married male, who was born on ███████████, and died on September 11, 2001. Mr. Hayden's remaining life expectancy is estimated at 32.0 years. This data is from the National Center for Health Statistics, United States Life Tables, 2017, Vol. 68, No. 7, National Vital Statistics Reports, 2019. I assume an estimated trial or resolution date of January 1, 2020.

In order to perform this evaluation, I have reviewed the following materials: (1) tax returns and W-2's from 1996 through 2001; (2) pictures of James Hayden and his family; (3) employment records from Netegrity; (4) an Itemized Statement of Earnings from the Social Security Administration; (5) James Hayden's Bachelor of Science in Business Administration Magnum Cum Laude degree from Stonehill College; (6) the Demand Statement dated July 19, 2006; (7) an interview with Elizabeth Gail Hayden and Elizabeth Kaitlin Hayden on March 5, 2007; (8) an interview with John Hayden on March 22, 2007; (9) an interview with Elizabeth Kaitlin Hayden on March 27, 2007; and (10) the case information form.

My methodology for estimating the losses, which is explained below, is generally based on past wage growth, interest rates, and consumer prices, as well as studies regarding the value of

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life. The effective net discount rate using statistically average wage growth rates and statistically average discount rates is 0.25 percent.

My estimate of the real wage growth rate is 1.00 percent per year. This growth rate is based on Business Sector, Hourly Compensation growth data from the Major Sector Productivity and Costs Index found at the U.S. Bureau of Labor Statistics website at www.bls.gov/data/home.htm, Series ID: PRS84006103, for the real increase in wages primarily for the last 20 years.

My estimate of the real discount rate is 1.25 percent per year. This discount rate is based on primarily the rate of return on short-term U.S. Treasury investment for the last 20 years. The data is from the statistical series H.15 Selected Interest Rates, published by the Board of Governors of the Federal Reserve System found at www.federalreserve.gov. This data is also published in the Economic Report of the President Table for "Bond yields and interest rates" for the real return on U.S. Treasury investments.

Estimates of real growth and discount rates are net of inflation based on the Consumer Price Index (CPI-U), published in monthly issues of the U.S. Bureau of Labor Statistics, CPI Detailed Report (Washington, D.C.: U.S. Government Printing Office) and available at the U.S. Bureau of Labor Statistics website at www.bls.gov/data/home.htm, Series ID: CUUR0000SA0. The rate of inflation for the past 20 years has been 2.16 percent.

I. LOSS OF WAGES AND EMPLOYEE BENEFITS - Annual Employment

Tables 1 through 9 show the loss of wages and benefits. Mr. Hayden was Vice President of Finance and Administration, Chief Financial Officer at Netegrity, Inc. at the time of his death. When Mr. Hayden was hired by Netegrity in March 1998, his base salary was $115,000 and he was granted 180,000 stock options. Additionally, Mr. Hayden was eligible to receive a bonus of up to $30,000. Mrs. Hayden states that Netegrity was rebuilding itself and at the time her husband was hired, it only had 25 employees. She states that since this was a new venture, her husband received a lower salary than at his previous company, but he received a lot of stock options. Mr. Hayden's salary increased to $130,000 in January 1999, and he received a bonus of $40,000 and exceeded the company's target revenues for the year. In 2000 his salary was $170,000, and he received a bonus of $50,000. Mr. Hayden received a 23.5 percent pay increase in 2001 and his salary at the time of his death was $210,000. Mrs. Hayden states that at the time of her husband's death, the company was highly successful and had grown to 250 employees.

Mrs. Hayden states that her husband was extremely confident in the team at Netegrity and had a lot of faith in them, and he had

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a positive outlook on the success of the company. She states that although her husband believed that the company would be successful, he knew the information technology industry was an ever-changing and unpredictable industry and knew that he had to be flexible. She states that her husband's prior employer, Computervision, was bought out, and her husband assisted the company with the transition period and was able to obtain another CFO position in the industry while he was helping with the transition. When new situations arose, her husband would capitalize on them.

Mrs. Hayden states that as the CFO in the high tech industry, her husband had to know what was on the horizon for the company's competitors and how that would impact his company. Since he oversaw the investments of the company, he had to be aware of what was going on in the market. She states that her husband had great relationships with people in the industry, and he definitely had other opportunities available to him. Given her husband's young age and successful career, he could have obtained another CFO position at a premium rate. He was also interested in venture capital. Mrs. Hayden states that her husband had a good ability to adapt his plan to the opportunities that were presented to him.

Mrs. Hayden states that her husband had a successful career and rose through the ranks quickly. Mr. Hayden graduated from Stonehill College in 1976 with a Bachelor of Science degree in Accounting. His first job out of college was with Deloitte & Touche, and he worked there for 10 years. During his time at Deloitte & Touche, he became a Certified Public Accountant and was promoted to Senior Audit Manager. From 1986 through 1988 Mr. Hayden worked for Computervision Corporation as the Director of International Accounting Corporate Accounting Manager. He worked as the Finance Director for Asia Pacific for Prime Computer from 1988 to 1989. From 1989 through 1993 he moved his family to England and worked as the Finance Director for the Northern European Region at Prime Computer/Computervision. In 1993 he moved back to Massachusetts and was the Director of Finance for Worldwide Field Operations for Computervision. In 1994, he was promoted to Vice President, Corporate Controller, and Treasurer, and he held those roles until he left Computervision. Additionally, Mr. Hayden was the Acting CFO during the transition period in 1997.

Mrs. Hayden states that her husband had great analytical and people skills. She states that people sought him out because he was a good listener, and he spent a lot of time counseling people at work. Her husband very much believed in creating a team, and as a result, his employees were very devoted to him. She states that he was a very solid person, and he was very practical. He was a person who was not pressured by other people's opinions, and he was able to maintain his independence. He was very hard-

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working, and he was not the type of person to retire early. She believes he would have continued working to some degree well after normal retirement age.

The wage estimate is illustrated at $1,961,246 in year 2001 dollars based on Mr. Hayden's W-2 earnings from 1996 through 2001, which includes his base salary, bonus and stock options. Future wages are grown at a real rate of 2.00 percent for the high tech industry.

Employee benefit estimates are based on actual benefit information from Netegrity as well as data from the U.S. Department of Labor, Bureau of Labor Statistics, Employer Cost of Employee Compensation - December 2018, 2019, found at www.bls.gov/ect. Based on information from Netegrity, the medical benefits are illustrated at the total cost of benefits of $90.28 per month for dental insurance and $769.52 per month for medical insurance minus the employee cost of $143 per month. Social Security benefits are illustrated at 6.2 percent of the 2001 Social Security maximum earnings of $80,400. Based on these assumptions, benefits are estimated at $17,830 in year 2001 dollars, which is 0.91 percent of Mr. Hayden's earnings. I have assumed that employee benefits grow at the same rate as wages and are discounted to present value at the same discount rate. Since these tables assume annual work, I do not include employee benefits relating to unemployment, injury, illness or disability; benefits are estimated at 0.91 percent of wages.

Personal consumption is an offset of the income. I use a personal consumption offset based on a study by Ruble, Patton, and Nelson, "Patton-Nelson Personal Consumption Tables 2011-12," Journal of Legal Economics, Vol. 21, No. 1, 2014, pp. 41-55, based on data from the U.S. Department of Labor, Bureau of Labor Statistics, "Consumer Expenditure Survey, 2011-12," Washington DC, 2012, which shows personal consumption for a 4-person household to be 8.8 percent through 2004, for a 3-person household to be 10.1 percent in 2005 and 2006, and for a 2-person household to be 12.6 percent from 2007 and thereafter.

I assume annual employment each year and show the accumulation through life expectancy. While these tables are calculated through the end of life expectancy, the losses from working through any age can be read off the table.

Based on the above assumptions, my opinion of the wage loss is $100,942,030 ► Table 9; this figure assumes work to age 79.5, but the ability to work through any assumed age may be read from Table 9; for example, the loss to age 70 is $66,832,450.

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II. LOSS OF HOUSEHOLD/FAMILY HOUSEKEEPING AND HOUSEHOLD MANAGEMENT SERVICES

Tables 10 through 12 show the pecuniary loss of tangible housekeeping chores and household management services. The number of hours of housekeeping and household management services for a married male who works full-time is 13.01 hours per week through 2004, and for no children is 13.85 hours per week from 2005 through 2024, and for a married, retired male is 21.57 hours per week from 2025 and thereafter. This data is based on the American Time Use Survey published by the Bureau of Labor Statistics, www.bls.gov/tus, usefully summarized in a publication by Expectancy Data, The Dollar Value of A Day: 2017 Dollar Valuation, Shawnee Mission, KS, 2018.

The hourly value of the housekeeping and household management services is based on the mean hourly earnings of carpenters; maintenance and repair workers; painters, construction and maintenance; childcare workers; waiters and waitresses; cooks, private household; laundry and dry-cleaning workers; maids and housekeeping cleaners; landscaping and groundskeeping workers; bookkeeping, accounting and auditing clerks; and taxi drivers and chauffeurs, which is $16.54 per hour in year 2018 dollars. This wage data is based on information from the U.S. Bureau of Labor Statistics, Occupational Employment Statistics, May 2018 National Occupational Employment and Wage Statistics found at www.bls.gov/oes. This figure is corroborated by the average hourly values published by Expectancy Data, The Dollar Value of A Day: 2017 Dollar Valuation, Shawnee Mission, KS, 2018, which is also based on the BLS Occupational Employment Statistics. A discussion of these services can be found in the **Household Services Valuation Appendix**. The hourly value of these services grows at the same rate as the wage growth rate discussed above.

I assess such services at their estimated market value which includes a conservative estimate of 50 percent hourly non-wage component reasonably charged by agencies or free-lance individuals who supply such services on a part-time basis, and who are responsible for advertising, hiring and vetting, training, insuring and bonding the part-time service provider, and who are also responsible for pay-related costs such as social security contributions, etc. If a person were to hire a free-lance employee directly instead of going through an agency, then he or she would have to take on the responsibility for all the non-wage costs that the agency would otherwise incur and then charge for. The money the person would pay directly in wages would be only a portion of the total costs. The total costs would include those items discussed above that the agency would otherwise incur.

Adding the non-wage component to the hourly wage is consistent with labor market theory and competitive market behavior. Peer-

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reviewed economic research supports this theory and shows that the non-wage costs can average up to 300 percent for the wage. See, for example, Cushing, Matthew J. and David I. Rosenbaum, "Valuing Household Services: A New Look at the Replacement Cost Approach," Journal of Legal Economics, Vol 19, No. 1, 2012, pp. 37-60, wherein the authors found that non-wage costs exceed wage costs by 167 percent. This is more than triple the 50 percent non-wage costs amount I use, discussed above. Also see Smith, David A., Stan V. Smith, and Stephanie R. Uhl, "Estimating the Value of Family Household Management Services: Approaches and Markups," Forensic Rehabilitation & Economics, Vol 3, No. 2, 2010, pp. 85-94. According to this research, the statistical probability is 99 percent that the non-wage costs exceed 250 percent of the wage cost. The use of only a 50 percent non-wage cost makes my estimate very conservative, and it far more than compensates for two possible variations: variations in the national wage depending on locality, and variations in different types of services actually performed in the household. Thus even if one or more of the different types of services are not performed, and even if the services are provided in low wage areas, my use of the low, 50 percent non-wage costs more than compensates for these factors.

According to Merry Maids, a national home cleaning service agency, the charges for their services within the largest 100 Metropolitan Statistical Areas with populations of 500,000 and up range from $40 to $65 per hour, averaging $49 per hour, in 2012. This hourly rate reflects non-wage costs of 250 percent of wages, and after adjusting for market factors, is four times the non-wage costs figure that I use, resulting in an hourly rate of more than double the rate that I use. Thus my use of only a 50 percent addition for non-wage costs is, in fact, very conservative.

Based on these assumptions, and James Hayden's life expectancy of 79.5 years, my opinion of the loss of the value of housekeeping and household management services is $652,756 ▸ Table 12.

III. LOSS OF VALUE OF LIFE

Tables 13 through 15 show the loss of the value of life. Economists have long agreed that life is valued at more than the lost earnings capacity. My estimate of the value of life is based on many economic studies on what we, as a contemporary society, actually pay to preserve the ability to lead a normal life. The studies examine incremental pay for risky occupations as well as a multitude of data regarding expenditure for life savings by individuals, industry, and state and federal agencies. Based on the average value of a statistical life and life expectancy of 79.5 years, my opinion of the loss of the value of life for James Hayden is $4,066,624 ▸ Table 15.

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My estimate of the value of life is consistent with estimates published in other studies that examine and review the broad spectrum of economic literature on the value of life. Among these is "The Plausible Range for the Value of Life," Journal of Forensic Economics, Vol. 3, No. 3, Fall 1990, pp. 17-39, by T. R. Miller. This study reviews 67 different estimates of the value of life published by economists in peer-reviewed academic journals. The Miller results, in most instances, show the value of life to range from approximately $1.6 million to $2.9 million dollars in year 1988 after-tax dollars, with a mean of approximately $2.2 million dollars. In "The Value of Life: Estimates with Risks by Occupation and Industry," Economic Inquiry, Vol. 42, No. 1, May 2003, pp. 29-48, Professor W. K. Viscusi estimates the value of life to be approximately $4.7 million dollars in year 2000 dollars. An early seminal paper on the value of life was written by Richard Thaler and Sherwin Rosen, "The Value of Saving a Life: Evidence from the Labor Market." in N.E. Terlickyj (ed.), Household Production and Consumption. New York: Columbia University Press, 1975, pp. 265-300. The Meta-Analyses Appendix to this report reviews additional literature suggesting a value of life of approximately $5.4 million in year 2008 dollars.

Because it is generally accepted by economists, the economic methodology for the valuation of life has been found to meet the Daubert and Frye standards by many courts, along with the Rules of Evidence in many states nationwide. My testimony on the value of life has been accepted in approximately 225 state and federal cases nationwide in approximately two-thirds of the states and two-thirds of the federal jurisdictions. Testimony has been accepted by U.S. district and appellate courts as well as in state circuit, appellate, and supreme courts. Proof of general acceptance and other standards is found in a discussion of the extensive references to the scientific economic peer-reviewed literature on the value of life listed in the **Value of Life Appendix** to this report.

The underlying, academic, peer-reviewed studies fall into two general groups: (1) consumer behavior and purchases of safety devices; (2) wage risk premiums to workers; in addition, there is a third group of studies consisting of cost-benefit analyses of regulations. For example, one consumer safety study analyzes the costs of smoke detectors and the lifesaving reduction associated with them. One wage premium study examines the differential rates of pay for dangerous occupations with a risk of death on the job. Just as workers receive shift premiums for undesirable work hours, workers also receive a higher rate of pay to accept a increased risk of death on the job. A study of government regulation examines the lifesaving resulting from the installation of smoke stack scrubbers at high-sulphur, coal-burning power plants. As a hypothetical example of the methodology, assume that a safety device such as a carbon

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monoxide detector costs $46 and results in lowering a person's risk of premature death by one chance in 100,000. The cost per life saved is obtained by dividing $46 by the one in 100,000 probability, yielding $4,600,000. Overall, based on the peer-reviewed economic literature, I estimate the central tendency of the range of the economic studies to be approximately $4.9 million in year 2019 dollars.

Other factors may be weighed to determine if these estimated losses for James Hayden should be adjusted because of special qualities or circumstances that economists do not as yet have a methodology for analysis.

In each set of tables, the estimated losses are calculated from September 11, 2001 through an assumed trial or resolution date of January 1, 2020, and from that date thereafter. The last table in each set accumulates the past and future estimated losses. These estimates are provided as a tool, an aid, and a guide to assist the evaluation by others.

All opinions expressed in this report are clearly labeled as such. They are rendered in accordance with generally accepted standards within the field of economics and are expressed to a reasonable degree of economic certainty. Estimates, assumptions, illustrations and the use of benchmarks, which are not opinions, but which can be viewed as hypothetical in nature, are also clearly disclosed and identified herein.

In my opinion, it is reasonable for experts in the field of economics and finance to rely on the materials and information I reviewed in this case for the formulation of my substantive opinions herein.

If additional information is provided to me, which could alter my opinions, I may incorporate any such information into an update, revision, addendum, or supplement of the opinions expressed in this report.

If you have any questions, please do not hesitate to call me.

Sincerely,

Stan V. Smith, Ph.D.
President

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APPENDIX: HOUSEHOLD SERVICES VALUATION

Courts have long recognized claims for the value of tangible
household family services as an element of damages in personal
injury and wrongful death cases, as an aspect of the pecuniary
loss in such cases. These services are those that are provided
by the injured family member to himself or herself and to other
family members, without charge or cost. Other family members who
may receive such services can include spouses, children, parents
or siblings; such family members do not necessarily have to
reside in the same household to receive such services.

Economists and courts have also long recognized that an
appropriate method in valuing such tangible services is to value
their estimated market-based costs by examining costs paid in
labor markets that provide generally comparable services for.
Thus, economists can value the service by looking at market
equivalents from which a pecuniary standard can be established.
This approach is set forth in the 1913 U.S.Supreme Court
Decision, Michigan Central Railroad Company v. Vreeland, 227 U.S.
59 (1913). So this method is a century old.

The Supreme Court's suggesting in valuing compensable services in
the Vreeland decision is a standard that is not rigid, but
actually rather general: "[The] pecuniary loss or damage must be
one which can be measured by some standard.... Compensation for
such loss manifestly does not include damages by way of
recompense for grief or wounded feelings." Michigan Central v.
Vreeland.

Examples of lost household services that used to be performed by
persons (whether fatally or non-fatally injured) can include
physical chores such as mowing the lawn, painting the house,
cleaning the windows, doing the laundry, washing and repairing
the car, preparing the meals and doing the dishes, among others.
For many decades economists have met the Supreme Court's general
standard by using labor market equivalents for cooks, laundry
workers, gardeners, maids, etc. in valuing the physical chores
regarding housekeeping services.

Additionally, economists have recognized that tangible services
to family members include services well beyond the physical
housekeeping chores. For example, William G. Jungbauer and Mark
J. Odegard, in Maximizing Recovery in FELA Wrongful Death
Actions, in Assessing Family Loss in Wrongful Death Litigation:
The Special Roles of Lost Services and Personal Consumption,
Lawyers & Judges Publishing Co., 1999, pp. 284, indicate that a
complete analysis of all services performed by family members
includes much, much more than the physical housekeeping chores.
Frank D. Tinari, in a peer-reviewed, scientific, economic journal
article "Household Services: Toward a More Comprehensive
Measure," Journal of Forensic Economics, Vol. 11, No. 3, Fall

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1998, pp. 253-265, expresses the same view. Dr. Tinari has been a tenured Professor at Seton Hall University, and is a former president of the National Association of Forensic Economics. There has been no peer-reviewed critique of this article since it appeared.

Jungbauer and Odegard indicate that a person may have provided services of many other professions such as that of a chauffeur, driving other family members to appointments, or that of a security guard, especially regarding the injury to a male spouse, etc. Every family member acts as a companion to other family members. And it is common for family members to act as counselors for one another, typically providing advice and counsel on important personal, family, medical, financial, career or other issues. The marketplace can and does value such items of loss. If the person cannot provide these services, or does so at a reduced capacity or rate, there is a distinct and definite loss to the other family members. These losses have a definite and easily measurable pecuniary value. Vreeland requires only that a "reasonable expectation" of loss of services be proven and that such loss be valued by some standard, presumably a reasonably-based economic standard, to allow recovery.

The economic literature on recovery of loss of services discusses an estimated market-oriented valuation cost method to assess the pecuniary value of the loss of accompaniment services, as well as the value of advice, guidance and counsel services that family members provide to one another, within a broadly defined scope of family services. See, for example, Frank D. Tinari, "Household Services: Toward a More Comprehensive Measure, " Journal of Forensic Economics, Vol. 11, No. 3, Fall 1998, pp. 253-265.

Finally, according to Chief Justice Robert Wilentz of the Supreme Court of New Jersey, in Green v. Bittner, 85 NJ 1, 1980, pp. 12, accompaniment services, to be compensable, must be that which would have provided services substantially equivalent to those provided by the companions often hired today by the aged or infirm, or substantially equivalent to services provided by nurses or practical nurses; and its value must be confined to what the marketplace would pay a stranger with similar qualifications for performing such services.

In valuing the household services that are provided by family members to one another, beyond the physical housekeeping chores, both the U.S Supreme Court and the New Jersey Supreme Court discuss looking at labor markets for the equivalent value of such services. This methodology is identical to the traditional approach that economists have been using for over four decades in valuing the physical chores involved in housekeeping services.
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APPENDIX: VALUE OF LIFE

The economic methodology for the valuation of life has been found to meet the <u>Daubert</u> and <u>Frye</u> standards by many courts, along with the Rules of Evidence in many states nationwide. My testimony on the value of life has been accepted in approximately 225 state and federal cases nationwide in approximately two-thirds of the states and two-thirds of the federal jurisdictions. Testimony has been accepted by U.S. district and appellate courts as well as in state circuit, appellate, and supreme courts. The <u>Daubert</u> standard sets forth four criteria:

1.   Testing of the theory and science

2.   Peer Review

3.   Known or potential rate of error

4.   Generally accepted.

Testing of the theory and science has been accomplished over the past four decades, since the 1960s. Dozens of economists of high renown have published over a hundred articles in high quality, peer-reviewed economic journals measuring the value of life. The value of life theories are perhaps among the most well-tested in the field of economics, as evidenced by the enormous body of economic scientific literature that has been published in the field and is discussed below.

Peer Review of the concepts and methodology have been extraordinarily extensive. One excellent review of this extensive, peer-reviewed literature can be found in "The Value of Risks to Life and Health," W. K. Viscusi, <u>Journal of Economic Literature</u>, Vol. 31, December 1993, pp. 1912-1946. A second is "The Value of a Statistical Life: A Critical Review of Market Estimates throughout the World." W. K. Viscusi and J. E. Aldy, <u>Journal of Risk and Uncertainty</u>, Vol. 27, No. 1, November 2002, pp. 5-76. Additional theoretical and empirical work by Viscusi, a leading researcher in the field, can be found in: "The Value of Life", W. K. Viscusi, John M. Olin Center for Law, Economics, and Business, Harvard Law School, Discussion Paper No. 517, June 2005. An additional peer-reviewed article discusses the application to forensic economics: "The Plausible Range for the Value of Life," T. R. Miller, <u>Journal of Forensic Economics</u>, Vol. 3, No. 3, Fall 1990, pp. 17-39, which discusses the many dozens of articles published in other peer-reviewed economic journals on this topic. This concept is discussed in detail in "Willingness to Pay Comes of Age: Will the System Survive?" T. R. Miller, <u>Northwestern University Law Review</u>, Summer 1989, pp. 876-907, and "Hedonic Damages in Personal Injury and Wrongful Death

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Litigation," by Stan V. Smith in Gaughan and Thornton, eds., Litigation Economics, Contemporary Studies in Economic and Financial Analysis, Vol. 74, pp. 39-59, JAI Press, Greenwich, CT, 1993. Kenneth Arrow, a Nobel Laureate in economics, discusses this method for valuing life in "Invaluable Goods," Journal of Economic Literature, Vol. 35, No. 2, 1997, pp. 759. See the Meta-Analyses Appendix for an additional review of the literature.

The known or potential rate of error is well researched. All of these articles discuss the known or potential rate of error, well within the acceptable standard in the field of economics, generally using a 95% confidence rate for the statistical testing and acceptance of results. There are few areas in the field of economics where the known or potential rate of error has been as well-accepted and subject to more extensive investigation.

General Acceptance of the concepts and methodology on the value of life in the field of economics is extensive. This methodology is and has been generally accepted in the field of economics for many years. Indeed, according to the prestigious and highly-regarded research institute, The Rand Corporation, by 1988, the peer-reviewed scientific methods for estimating the value of life were well-accepted: "Most economists would agree that the willingness-to-pay methodology is the most conceptually appropriate criterion for establishing the value of life," Computing Economic loss in Cases of Wrongful Death, King and Smith, Rand Institute for Civil Justice, R-3549-ICJ, 1988.

While first discussed in cutting edge, peer-reviewed economic journals, additional proof of general acceptance is now indicated by the fact that this methodology is now taught in standard economics courses at the undergraduate and graduate level throughout hundreds of colleges and universities nationwide as well as the fact that it is taught and discussed in widely-accepted textbooks in the field of law and economics: Economics, Sixth Edition, David C. Colander, McGraw-Hill Irwin, Boston, 2006, pp. 463-465; this introductory economics textbook is the third most widely used textbook in college courses nationwide. Hamermesh and Rees's The Economics of Work and Pay, Harper-Collins, 1993, Chapter 13, a standard advanced textbook in labor economics, also discusses the methodology for valuing life. Other textbooks discuss this topic as well. Richard Posner, a Judge and former Chief Judge of the U.S. Court of Appeals for the highly regarded 7th Circuit and Senior Lecturer at the University of Chicago Law School, one of most prolific legal writers in America, details the Value of Life approach in his widely used textbooks: Economic Analysis of Law, 1986, Little Brown & Co., pp. 182-185 and Tort Law, 1982, Little Brown & Co., pp. 120-126.

As further evidence of general acceptance in the field, some surveys (albeit non-scientific) published in the field of

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forensic economics show that hundreds of economists nationwide
are now familiar with this methodology and are available to
prepare (and critique) forensic economic value of life estimates.
Indeed, some economists who indicate they will prepare such
analysis for plaintiffs also are willing to critique such
analysis for defendants, as I have done. That an economist is
willing to critique a report does not indicate that he or she is
opposed to the concept or the methodology, but merely available
to assure that the plaintiff economist has employed proper
techniques. The fact that there are economists who indicate they
do not prepare estimates of value of life is again no indication
that they oppose the methodology: many claim they are not
familiar with the literature and untrained in this area. While
some CPAs and others without a degree in economics have opposed
these methods, such professionals do not have the requisite
academic training and are unqualified to make such judgements.
However, as in any field of economics, this area is not without
any dissent. General acceptance does not mean universal
acceptance.

Additional evidence of general acceptance in the field is found
in the teaching of the concepts regarding the value of life.
Forensic Economics is now taught as a special field in a number
of institutions nationwide. I taught what is believed to be the
first course ever presented in the field of Forensic Economics at
DePaul University in Spring, 1990. My own book, Economic/Hedonic
Damages, Anderson, 1990, and supplemental updates thereto, co-
authored with Dr. Michael Brookshire, a Professor of Economics in
West Virginia, has been used as a textbook in at least 5 colleges
and universities nationwide in such courses in economics, and has
a thorough discussion of the methodology. Toppino et. al., in
"Forensic Economics in the Classroom," published in The Earnings
Analyst, Journal of the American Rehabilitation Economics
Association, Vol. 4, 2001, pp. 53-86, indicate that hedonic
damages is one of 15 major topic areas taught in such courses.

Lastly, general acceptance is found by examining publications in
the primary journal in the field of Forensic Economics, which is
the peer-reviewed Journal of Forensic Economics, where there have
been published many articles on the value of life. Some are
cited above. Others include: "The Econometric Basis for
Estimates of the Value of Life," W. K. Viscusi, Vol 3, No. 3,
Fall 1990, pp. 61-70; "Hedonic Damages in the Courtroom Setting."
Stan V. Smith, Vol. 3, No. 3, Fall 1990, pp. 41-49; "Issues
Affecting the Calculated Value of Life," E. P. Berla, M. L.
Brookshire and Stan V. Smith, Vol 3, No. 1, 1990, pp. 1-8;
"Hedonic Damages and Personal Injury: A Conceptual Approach." G.
R. Albrecht, Vol. 5., No. 2, Spring/Summer 1992, pp. 97-104; "The
Application of the Hedonic Damages Concept to Wrongful and
Personal Injury Litigation." G. R. Albrecht, Vol. 7, No. 2,
Spring/Summer 1994, pp. 143-150; and also "A Review of the Monte
Carlo Evidence Concerning Hedonic Value of Life Estimates," R. F.

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Gilbert, Vol. 8, No. 2, Spring/Summer 1995, pp. 125-130.
Professor Ike Mathur, while Chairman of the Department of Finance
at Southern Illinois University wrote an article on how the value
of life studies can be used to provide a basis for estimating the
value of life per year in application to litigation. This
article corroborates my approach: "Estimating Value of Life per
Life Year." I. Mathur, Journal of Forensic Economics, Vol. 3,
No. 3, 1990, pp. 95-96. As do many of the authors of
applications of the value of life literature to litigation
economics, Professor Mathur has frequently testified in court,
and courts have admitted his testimony.

It is important to note that this methodology is endorsed and
employed by the U. S. Government as the standard and recommended
approach for use by all U. S. Agencies in valuing life for policy
purposes, as mandated in current and past Presidential Executive
Orders in effect since 1972, and as discussed in "Report to
Congress on the Costs and Benefits of Federal Regulations,"
Office of Management and Budget, 1998, and "Economic Analysis of
Federal Regulations Under Executive Order 12866," Executive
Office of the President, Office of Management and Budget, pp. 1-
37, and "Report to the President on Executive Order No. 12866,"
Regulatory Planning and Review, May 1, 1994, Office of
Information and Regulatory Affairs, Office of Management and
Budget. Prior presidents signed similar orders as discussed in
"Federal Agency Valuations of Human life," Administrative
Conference of the United States, Report for Recommendation 88-7,
December 1988, pp. 368-408. 926

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APPENDIX: META-ANALYSES AND VALUE OF LIFE RESULTS SINCE 2000

Below I list the principal systematic reviews (meta-analyses), since the year 2000, of the value of life literature, and the values of a statistical life that they recommend. In statistics, a meta-analysis combines the results of several studies that address a set of related research hypotheses. Meta-analysis increase the statistical power of studies by analyzing a group of studies and provide a more powerful and accurate data analysis than would result from analyzing each study alone. Based on those reviews, the Summary Table suggests a best estimate. The following table summarizes the studies and their findings.

These statistically based studies place the value between $4.4 and $7.5 million, with $5.9 million in year 2005 dollars representing a conservative yet credible estimate of the average (and range midpoint) of the values of a statistical life published in the studies in year 2005 dollars. Net of human capital, a credible net value of life based on all these literature reviews to be $4.8 million in year 2005 dollars, or $5.4 million in year 2008 dollars.

The actual value that I use, $4.1 million in year 2008 dollars ($4.9 million in year 2019 dollars) is approximately 24 percent lower than a conservative average estimate based on the credible meta-analyses. This value was originally based on a review conducted in the late 1980s, averaging the results published by that time. I have increased that late 1980s value only by inflation over time, despite the fact a review of literature over the years since that time has put obvious upward pressure on the figure that I use.

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VALUE OF STATISTICAL LIFE SUMMARY TABLE

Mean and range of value of statistical life estimates (in 2005 dollars) from the best meta-analyses and systematic reviews since 2000 and characteristics of those reviews.

Study	Formal Meta-Analysis?	Number of Values	Best Estimate (2005 Dollars)	Range	Context
Miller 2000	Yes	68 estimates	$5.1M	$4.5-$6.2M	US estimate from all
Mrozek & Taylor 2002	Yes	203 estimates	$4.4M	+ or - 35%	Labor market
Viscusi & Aldy 2003	Yes	49 estimates	$6.5M	$5.1-$9.6M	Labor market, US estimate from all
Kochi et al. 2006	Yes	234 estimates	$6.0M	+ or - 44%	Labor market survey
Bellavance 2006 (published in 2009)	Yes	37 estimates	$7.5M	+ or - 19%	Labor market

Adapted from Ted R. Miller's paper "Hedonic Damages," _Journal of Forensic Economics_, Vol. 20, No. 2 (October 2008), pp. 137-153.

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Miller (2000) started from the Miller 1989 JFE estimates and used statistical methods to adjust for differences between studies. It also added newer studies, primarily ones outside the United States. The authors specified the most appropriate study approach a priori, which allowed calculation of a best estimate from the statistical regression. Miller, Ted R, "Variations between Countries in Values of Statistical Life", Journal of Transport Economics and Policy, Vol. 34, No. 2 (May 2000), pp. 169-188.

Mrozek and Taylor (2002) searched intensively for studies of the value of life implied by wages paid for risky jobs. They coded all values from each study rather than a most appropriate estimate. A statistical analysis identified what factors accounted for the differences in values between studies. The authors specified the most appropriate study approach a priori, which allowed calculation of a best estimate from the statistical regression. Mrozek, Janusz R. and Laura O. Taylor, "What Determines the Value of Life? A Meta-Analysis", Journal of Policy Analysis and Management, Vol. 21, No. 2 (2002), pp. 253-270.

Viscusi and Aldy (2003) focused on values from labor market studies that they considered of high quality and that provided data on risk levels and other important explanatory variables. They used statistical methods to account for variations between studies and derive a best estimate. W.K. Viscusi and J.E. Aldy, "The Value of a Statistical Life: A Critical Review of Market Estimates Throughout the World", Journal of Risk and Uncertainty, Vol. 27, No. 1 (2003), pp. 5-76.

Kochi et al. (2006) searched intensively for studies of the value of life implied by wages and coded all values from each study rather than a most appropriate estimate. They did not filter study quality carefully. The best estimate was derived by statistical methods based on the distribution of the values within and across studies. Kochi, Ikuho, Bryan Hubbell, and Randall Kramer, "An Empirical Bayes Approach to Combining and Comparing Estimates of the Value of a Statistical Life for Environmental Policy Analysis", Environmental and Resource Economics, Vol. 34 (2006), pp. 385-406.

Bellavance et al. (2009) focused on values from labor market studies that they considered of high quality and that provided data on risk levels and other important explanatory variables. They used statistical methods to account for variations between studies and derive a best estimate. Bellavance, Francois, Georges Dionne, and Martin Lebeau, "The Value of a Statistical Life: A Meta-Analysis with a Mixed Effects Regression Model," Journal of Health Economics, Vol. 28, Issue 2, (2009), pp. 444-464. 3A22

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SUMMARY OF LOSSES FOR JAMES HAYDEN

TABLE	DESCRIPTION	ESTIMATE
*****	********************************	***********
	EARNINGS	
	LOSS OF WAGES & BENEFITS, NET OF PERSONAL CONSUMPTION	
9	Annual Employment to age 67	$66,832,450
	HOUSEHOLD/FAMILY SERVICES	
12	LOSS OF HOUSEHOLD/FAMILY HOUSEKEEPING AND HOME MANAGEMENT SERVICES	$ 652,756
	LOSS OF ENJOYMENT OF LIFE	
15	LOSS OF VALUE OF LIFE	$ 4,066,624

The information on this Summary of Losses is intended to summarize
losses under certain given assumptions. Please refer to the report
and the tables for all the opinions.

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Table 1

LOSS OF PAST WAGES
2001 - 2019

YEAR	AGE	WAGES	CUMULATE
****	***	***********	***********
2001	47	$596,434	$596,434
2002	48	2,047,149	2,643,583
2003	49	2,126,578	4,770,161
2004	50	2,238,436	7,008,597
2005	51	2,359,759	9,368,356
2006	52	2,466,908	11,835,264
2007	53	2,616,927	14,452,191
2008	54	2,671,658	17,123,849
2009	55	2,797,795	19,921,644
2010	56	2,895,599	22,817,243
2011	57	3,039,290	25,856,533
2012	58	3,152,991	29,009,524
2013	59	3,263,400	32,272,924
2014	60	3,353,356	35,626,280
2015	61	3,444,886	39,071,166
2016	62	3,585,252	42,656,418
2017	63	3,732,573	46,388,991
2018	64	3,878,523	50,267,514
2019	65	4,033,664	$54,301,178

JAMES HAYDEN $54,301,178

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Table 2

LOSS OF PAST EMPLOYEE BENEFITS
2001 - 2019

YEAR	AGE	EMPLOYEE BENEFITS	CUMULATE
****	***	********	********
2001	47	$5,428	$5,428
2002	48	18,629	24,057
2003	49	19,352	43,409
2004	50	20,370	63,779
2005	51	21,474	85,253
2006	52	22,449	107,702
2007	53	23,814	131,516
2008	54	24,312	155,828
2009	55	25,460	181,288
2010	56	26,350	207,638
2011	57	27,658	235,296
2012	58	28,692	263,988
2013	59	29,697	293,685
2014	60	30,516	324,201
2015	61	31,348	355,549
2016	62	32,626	388,175
2017	63	33,966	422,141
2018	64	35,295	457,436
2019	65	36,706	$494,142

JAMES HAYDEN $494,142

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Table 3

LOSS OF PAST PERSONAL CONSUMPTION
2001 - 2019

YEAR	AGE	PERSONAL CONSUMPTION	CUMULATE
****	***	***********	***********
2001	47	-$53,083	-$53,083
2002	48	-182,196	-235,279
2003	49	-189,265	-424,544
2004	50	-199,221	-623,765
2005	51	-240,695	-864,460
2006	52	-251,625	-1,116,085
2007	53	-332,350	-1,448,435
2008	54	-339,301	-1,787,736
2009	55	-355,320	-2,143,056
2010	56	-367,741	-2,510,797
2011	57	-385,990	-2,896,787
2012	58	-400,430	-3,297,217
2013	59	-414,452	-3,711,669
2014	60	-425,876	-4,137,545
2015	61	-437,501	-4,575,046
2016	62	-455,327	-5,030,373
2017	63	-474,037	-5,504,410
2018	64	-492,572	-5,996,982
2019	65	-512,275	-$6,509,257

JAMES HAYDEN -$6,509,257

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Table 4

ECONOMIC LOSS TO DATE
2001 - 2019

YEAR	AGE	WAGES	EMPLOYEE BENEFITS	PERSONAL CONSUMPTION	TOTAL	CUMULATE
****	***	***********	********	***********	***********	***********
2001	47	$596,434	$5,428	-$53,083	$548,779	$548,779
2002	48	2,047,149	18,629	-182,196	1,883,582	2,432,361
2003	49	2,126,578	19,352	-189,265	1,956,665	4,389,026
2004	50	2,238,436	20,370	-199,221	2,059,585	6,448,611
2005	51	2,359,759	21,474	-240,695	2,140,538	8,589,149
2006	52	2,466,908	22,449	-251,625	2,237,732	10,826,881
2007	53	2,616,927	23,814	-332,350	2,308,391	13,135,272
2008	54	2,671,658	24,312	-339,301	2,356,669	15,491,941
2009	55	2,797,795	25,460	-355,320	2,467,935	17,959,876
2010	56	2,895,599	26,350	-367,741	2,554,208	20,514,084
2011	57	3,039,290	27,658	-385,990	2,680,958	23,195,042
2012	58	3,152,991	28,692	-400,430	2,781,253	25,976,295
2013	59	3,263,400	29,697	-414,452	2,878,645	28,854,940
2014	60	3,353,356	30,516	-425,876	2,957,996	31,812,936
2015	61	3,444,886	31,348	-437,501	3,038,733	34,851,669
2016	62	3,585,252	32,626	-455,327	3,162,551	38,014,220
2017	63	3,732,573	33,966	-474,037	3,292,502	41,306,722
2018	64	3,878,523	35,295	-492,572	3,421,246	44,727,968
2019	65	4,033,664	36,706	-512,275	3,558,095	$48,286,063

JAMES HAYDEN $54,301,178 $494,142   -$6,509,257 $48,286,063

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Table 5

PRESENT VALUE OF FUTURE WAGES
2020 - 2033

YEAR	AGE	WAGES	DISCOUNT FACTOR	PRESENT VALUE	CUMULATE
****	***	**********	********	***********	***********
2020	66	$4,195,010	0.98765	$4,143,202	$4,143,202
2021	67	4,278,910	0.97546	4,173,906	8,317,108
2022	68	4,364,488	0.96342	4,204,835	12,521,943
2023	69	4,451,778	0.95152	4,235,956	16,757,899
2024	70	4,540,814	0.93978	4,267,366	21,025,265
2025	71	4,631,630	0.92817	4,298,940	25,324,205
2026	72	4,724,263	0.91672	4,330,826	29,655,031
2027	73	4,818,748	0.90540	4,362,894	34,017,925
2028	74	4,915,123	0.89422	4,395,201	38,413,126
2029	75	5,013,425	0.88318	4,427,757	42,840,883
2030	76	5,113,694	0.87228	4,460,573	47,301,456
2031	77	5,215,968	0.86151	4,493,609	51,795,065
2032	78	5,320,287	0.85087	4,526,873	56,321,938
2033	79	3,999,398	0.84311	3,371,932	$59,693,870

JAMES HAYDEN $59,693,870

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Table 6

PRESENT VALUE OF FUTURE EMPLOYEE BENEFITS
2020 - 2033

YEAR	AGE	EMPLOYEE BENEFITS	DISCOUNT FACTOR	PRESENT VALUE	CUMULATE
****	***	********	********	********	********
2020	66	$38,175	0.98765	$37,704	$37,704
2021	67	38,938	0.97546	37,982	75,686
2022	68	39,717	0.96342	38,264	113,950
2023	69	40,511	0.95152	38,547	152,497
2024	70	41,321	0.93978	38,833	191,330
2025	71	42,148	0.92817	39,121	230,451
2026	72	42,991	0.91672	39,411	269,862
2027	73	43,851	0.90540	39,703	309,565
2028	74	44,728	0.89422	39,997	349,562
2029	75	45,622	0.88318	40,292	389,854
2030	76	46,535	0.87228	40,592	430,446
2031	77	47,465	0.86151	40,892	471,338
2032	78	48,415	0.85087	41,195	512,533
2033	79	36,395	0.84311	30,685	$543,218

JAMES HAYDEN $543,218

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Table 7

PRESENT VALUE OF FUTURE PERSONAL CONSUMPTION
2020 - 2033

YEAR	AGE	PERSONAL CONSUMPTION	DISCOUNT FACTOR	PRESENT VALUE	CUMULATE
****	***	***********	********	***********	***********
2020	66	-$532,766	0.98765	-$526,186	-$526,186
2021	67	-543,422	0.97546	-530,086	-1,056,272
2022	68	-554,290	0.96342	-534,014	-1,590,286
2023	69	-565,376	0.95152	-537,967	-2,128,253
2024	70	-576,683	0.93978	-541,955	-2,670,208
2025	71	-588,217	0.92817	-545,965	-3,216,173
2026	72	-599,981	0.91672	-550,015	-3,766,188
2027	73	-611,981	0.90540	-554,088	-4,320,276
2028	74	-624,221	0.89422	-558,191	-4,878,467
2029	75	-636,705	0.88318	-562,325	-5,440,792
2030	76	-649,439	0.87228	-566,493	-6,007,285
2031	77	-662,428	0.86151	-570,688	-6,577,973
2032	78	-675,676	0.85087	-574,912	-7,152,885
2033	79	-507,924	0.84311	-428,236	-$7,581,121

JAMES HAYDEN   -$7,581,121

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Table 8

PRESENT VALUE OF FUTURE WAGE AND BENEFIT LOSS
2020 - 2033

YEAR	AGE	WAGES	EMPLOYEE BENEFITS	PERSONAL CONSUMPTION	TOTAL	CUMULATE
****	***	***********	********	***********	***********	***********
2020	66	$4,143,202	$37,704	-$526,186	$3,654,720	$3,654,720
2021	67	4,173,906	37,982	-530,086	3,681,802	7,336,522
2022	68	4,204,835	38,264	-534,014	3,709,085	11,045,607
2023	69	4,235,956	38,547	-537,967	3,736,536	14,782,143
2024	70	4,267,366	38,833	-541,955	3,764,244	18,546,387
2025	71	4,298,940	39,121	-545,965	3,792,096	22,338,483
2026	72	4,330,826	39,411	-550,015	3,820,222	26,158,705
2027	73	4,362,894	39,703	-554,088	3,848,509	30,007,214
2028	74	4,395,201	39,997	-558,191	3,877,007	33,884,221
2029	75	4,427,757	40,292	-562,325	3,905,724	37,789,945
2030	76	4,460,573	40,592	-566,493	3,934,672	41,724,617
2031	77	4,493,609	40,892	-570,688	3,963,813	45,688,430
2032	78	4,526,873	41,195	-574,912	3,993,156	49,681,586
2033	79	3,371,932	30,685	-428,236	2,974,381	$52,655,967
JAMES HAYDEN		$59,693,870	$543,218	-$7,581,121	$52,655,967	

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Table 9

PRESENT VALUE OF NET WAGE AND BENEFIT LOSS
2001 - 2033

YEAR	AGE	WAGES	EMPLOYEE BENEFITS	PERSONAL CONSUMPTION	TOTAL	CUMULATE
2001	47	$596,434	$5,428	-$53,083	$548,779	$548,779
2002	48	2,047,149	18,629	-182,196	1,883,582	2,432,361
2003	49	2,126,578	19,352	-189,265	1,956,665	4,389,026
2004	50	2,238,436	20,370	-199,221	2,059,585	6,448,611
2005	51	2,359,759	21,474	-240,695	2,140,538	8,589,149
2006	52	2,466,908	22,449	-251,625	2,237,732	10,826,881
2007	53	2,616,927	23,814	-332,350	2,308,391	13,135,272
2008	54	2,671,658	24,312	-339,301	2,356,669	15,491,941
2009	55	2,797,795	25,460	-355,320	2,467,935	17,959,876
2010	56	2,895,599	26,350	-367,741	2,554,208	20,514,084
2011	57	3,039,290	27,658	-385,990	2,680,958	23,195,042
2012	58	3,152,991	28,692	-400,430	2,781,253	25,976,295
2013	59	3,263,400	29,697	-414,452	2,878,645	28,854,940
2014	60	3,353,356	30,516	-425,876	2,957,996	31,812,936
2015	61	3,444,886	31,348	-437,501	3,038,733	34,851,669
2016	62	3,585,252	32,626	-455,327	3,162,551	38,014,220
2017	63	3,732,573	33,966	-474,037	3,292,502	41,306,722
2018	64	3,878,523	35,295	-492,572	3,421,246	44,727,968
2019	65	4,033,664	36,706	-512,275	3,558,095	48,286,063
2020	66	4,143,202	37,704	-526,186	3,654,720	51,940,783
2021	67	4,173,906	37,982	-530,086	3,681,802	55,622,585
2022	68	4,204,835	38,264	-534,014	3,709,085	59,331,670
2023	69	4,235,956	38,547	-537,967	3,736,536	63,068,206
2024	70	4,267,366	38,833	-541,955	3,764,244	66,832,450
2025	71	4,298,940	39,121	-545,965	3,792,096	70,624,546
2026	72	4,330,826	39,411	-550,015	3,820,222	74,444,768
2027	73	4,362,894	39,703	-554,088	3,848,509	78,293,277
2028	74	4,395,201	39,997	-558,191	3,877,007	82,170,284
2029	75	4,427,757	40,292	-562,325	3,905,724	86,076,008
2030	76	4,460,573	40,592	-566,493	3,934,672	90,010,680
2031	77	4,493,609	40,892	-570,688	3,963,813	93,974,493
2032	78	4,526,873	41,195	-574,912	3,993,156	97,967,649
2033	79	3,371,932	30,685	-428,236	2,974,381	$100,942,030

JAMES HAYDEN $113,995,048 $1,037,360   -$14,090,378 $100,942,030

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Table 10

LOSS OF PAST HOUSEHOLD SERVICES
2001 - 2019

YEAR	AGE	HOUSEHOLD SERVICES	CUMULATE
****	***	*********	********
2001	47	$3,203	$3,203
2002	48	10,749	13,952
2003	49	11,315	25,267
2004	50	11,814	37,081
2005	51	12,173	49,254
2006	52	12,647	61,901
2007	53	14,013	75,914
2008	54	14,426	90,340
2009	55	14,577	104,917
2010	56	14,756	119,673
2011	57	14,832	134,505
2012	58	15,702	150,207
2013	59	15,702	165,909
2014	60	16,105	182,014
2015	61	16,502	198,516
2016	62	16,855	215,371
2017	63	17,362	232,733
2018	64	17,870	250,603
2019	65	18,406	$269,009

JAMES HAYDEN $269,009

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Table 11

PRESENT VALUE OF FUTURE HOUSEHOLD SERVICES
2020 - 2033

YEAR	AGE	HOUSEHOLD SERVICES	DISCOUNT FACTOR	PRESENT VALUE	CUMULATE
****	***	*********	********	********	********
2020	66	$18,958	0.98765	$18,724	$18,724
2021	67	19,148	0.97546	18,678	37,402
2022	68	31,032	0.96342	29,897	67,299
2023	69	31,342	0.95152	29,823	97,122
2024	70	31,655	0.93978	29,749	126,871
2025	71	31,972	0.92817	29,675	156,546
2026	72	32,292	0.91672	29,603	186,149
2027	73	32,615	0.90540	29,530	215,679
2028	74	32,941	0.89422	29,457	245,136
2029	75	33,270	0.88318	29,383	274,519
2030	76	33,603	0.87228	29,311	303,830
2031	77	33,939	0.86151	29,239	333,069
2032	78	34,278	0.85087	29,166	362,235
2033	79	25,515	0.84311	21,512	$383,747

JAMES HAYDEN $383,747

SMITH ECONOMICS GROUP, LTD.   312/943-1551

Table 12

PRESENT VALUE OF NET HOUSEHOLD SERVICE LOSS
2001 - 2033

YEAR	AGE	HOUSEHOLD SERVICES	CUMULATE
2001	47	$3,203	$3,203
2002	48	10,749	13,952
2003	49	11,315	25,267
2004	50	11,814	37,081
2005	51	12,173	49,254
2006	52	12,647	61,901
2007	53	14,013	75,914
2008	54	14,426	90,340
2009	55	14,577	104,917
2010	56	14,756	119,673
2011	57	14,832	134,505
2012	58	15,702	150,207
2013	59	15,702	165,909
2014	60	16,105	182,014
2015	61	16,502	198,516
2016	62	16,855	215,371
2017	63	17,362	232,733
2018	64	17,870	250,603
2019	65	18,406	269,009
2020	66	18,724	287,733
2021	67	18,678	306,411
2022	68	29,897	336,308
2023	69	29,823	366,131
2024	70	29,749	395,880
2025	71	29,675	425,555
2026	72	29,603	455,158
2027	73	29,530	484,688
2028	74	29,457	514,145
2029	75	29,383	543,528
2030	76	29,311	572,839
2031	77	29,239	602,078
2032	78	29,166	631,244
2033	79	21,512	$652,756

JAMES HAYDEN $652,756

SMITH ECONOMICS GROUP, LTD.   312/943-1551

Table 13

LOSS OF PAST VALUE OF LIFE TO JAMES
2001 - 2019

YEAR	AGE	LVL	CUMULATE
2001	47	$29,936	$29,936
2002	48	100,782	130,718
2003	49	102,677	233,395
2004	50	106,024	339,419
2005	51	109,650	449,069
2006	52	112,436	561,505
2007	53	117,023	678,528
2008	54	117,128	795,656
2009	55	120,314	915,970
2010	56	122,119	1,038,089
2011	57	125,734	1,163,823
2012	58	127,921	1,291,744
2013	59	129,840	1,421,584
2014	60	130,827	1,552,411
2015	61	131,782	1,684,193
2016	62	134,510	1,818,703
2017	63	137,348	1,956,051
2018	64	139,971	2,096,022
2019	65	142,771	$2,238,793

JAMES HAYDEN $2,238,793

SMITH ECONOMICS GROUP, LTD.   312/943-1551

Table 14

PRESENT VALUE OF FUTURE LOSS OF VALUE OF LIFE TO JAMES
2020 - 2033

YEAR	AGE	LVL	DISCOUNT FACTOR	PRESENT VALUE	CUMULATE
****	***	********	********	**********	**********
2020	66	$145,626	0.98765	$143,828	$143,828
2021	67	145,626	0.97546	142,052	285,880
2022	68	145,626	0.96342	140,299	426,179
2023	69	145,626	0.95152	138,566	564,745
2024	70	145,626	0.93978	136,856	701,601
2025	71	145,626	0.92817	135,166	836,767
2026	72	145,626	0.91672	133,498	970,265
2027	73	145,626	0.90540	131,850	1,102,115
2028	74	145,626	0.89422	130,222	1,232,337
2029	75	145,626	0.88318	128,614	1,360,951
2030	76	145,626	0.87228	127,027	1,487,978
2031	77	145,626	0.86151	125,458	1,613,436
2032	78	145,626	0.85087	123,909	1,737,345
2033	79	107,324	0.84311	90,486	$1,827,831

JAMES HAYDEN $1,827,831

SMITH ECONOMICS GROUP, LTD.   312/943-1551

Table 15

PRESENT VALUE OF NET LOSS OF VALUE OF LIFE TO JAMES
2001 - 2033

YEAR	AGE	LVL	CUMULATE
****	***	**********	**********
2001	47	$29,936	$29,936
2002	48	100,782	130,718
2003	49	102,677	233,395
2004	50	106,024	339,419
2005	51	109,650	449,069
2006	52	112,436	561,505
2007	53	117,023	678,528
2008	54	117,128	795,656
2009	55	120,314	915,970
2010	56	122,119	1,038,089
2011	57	125,734	1,163,823
2012	58	127,921	1,291,744
2013	59	129,840	1,421,584
2014	60	130,827	1,552,411
2015	61	131,782	1,684,193
2016	62	134,510	1,818,703
2017	63	137,348	1,956,051
2018	64	139,971	2,096,022
2019	65	142,771	2,238,793
2020	66	143,828	2,382,621
2021	67	142,052	2,524,673
2022	68	140,299	2,664,972
2023	69	138,566	2,803,538
2024	70	136,856	2,940,394
2025	71	135,166	3,075,560
2026	72	133,498	3,209,058
2027	73	131,850	3,340,908
2028	74	130,222	3,471,130
2029	75	128,614	3,599,744
2030	76	127,027	3,726,771
2031	77	125,458	3,852,229
2032	78	123,909	3,976,138
2033	79	90,486	$4,066,624

JAMES HAYDEN $4,066,624

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